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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/722,676

11/25/2003

Steven A. Rogers

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BANNER & WITCOFF

1001 G STREET N W

SUITE 1100

WASHINGTON, DC 20001

EXAMINER

SCHEIBEL, ROBERT C

ART UNIT

PAPER NUMBER

2666

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/722,676	<b>Applicant(s)</b> ROGERS, STEVEN A.	
	<b>Examiner</b> Robert C. Scheibel	<b>Art Unit</b> 2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                    |                                                                             |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____                                                |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8/4/05, 10/31/05</u>                                                      | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

- Examiner acknowledges Applicant's Amendment filed on 11/7/2005.
- Applicant's Amendment includes amended claims 1-3, 8, 10-11, and 17-20.
- Applicant's Amendment adds new claims 21-25.
- Claims 1-25 are currently pending.

### ***Response to Arguments***

1. Applicant's arguments filed 11/7/2005, with respect to the objection to the title, have been fully considered but they are not persuasive. Examiner contends that "System and Method for Transmission of Data" is not any more descriptive than "Internet Endpoint System". Examiner requests that Applicant modify the title to indicate more clearly the subject matter of the present application. This will enhance the ability of others searching a database (which may contain this application in the future) to more quickly discern the content of the document.

2. Applicant's arguments, see page 11, filed 11/7/2005, with respect to the rejection of claims 1-9 under 35 U.S.C. 112, second paragraph, have been fully considered and are persuasive. The rejection of claims 1-9 under 35 U.S.C. 112, second paragraph, has been withdrawn.

3. Applicant's arguments with respect to the rejection of claims 1-4, 9-11, and 13-19 under 35 U.S.C. 103(a) on pages 11-14 have been considered but are moot in view of the new grounds of rejection. Similarly, Applicant's arguments with respect to the rejection of claims 5-8, 12, and 20 under 35 U.S.C. 103(a) on pages 14-16 have been considered but are moot in view of the

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new grounds of rejection. However, Examiner would like to comment on a few areas of the arguments which may be relevant to either the rejection below or future office actions.

First, in the paragraph starting “Wilson similarly fails...” on pages 12-13, Applicant argues that Wilson discusses the avoidance of collisions and that this is distinct from congestion as stated in the current claims. As stated above, this argument is moot in view of the new grounds of rejection; however, Examiner believes the use of this subject matter to reject these claims is valid and may use similar art in a future office action. The Applicant has clearly linked the avoidance of collisions with congestion in paragraph 4 of the specification which discusses “congestion due to contention among local transmitters”.

Second, on page 15, Applicant argues that Oran teaches away from using a backplane bus by using the TDM bus. However, the TDM bus is in fact a backplane bus as is well known in the art. This document describes the H.110 CT bus which is a backplane implementation of a TDM bus (see chapter 4, for example). Backplane bus is a very broad term used to define a piece of hardware containing sockets into which a number of different circuit boards or cards can be plugged. While there may be differences between Oran’s implementation and the specification, Oran clearly discloses this limitation and does not teach away. Oran discusses a PC backplane bus as distinct from the TDM bus; however, this does not preclude implementing the TDM bus as a backplane bus.

### ***Specification***

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,240,084 to Oran et al in view of U.S. Patent 6,272,131 to Ofek.

Regarding claim 1, Oran discloses a method of transmitting packets over a computer network (LAN 34 or WAN 36 of Figure 2), comprising the steps of: (1) receiving a plurality of data signals of different data types (analog voice received at the telephony endpoint cards and the data received at the peripheral cards 24) in a device comprising a CPU (voice/data router card 14 of Figure 2), a backplane bus (bus 26 of Figure 2), and a plurality of modules coupled to the backplane bus (the modules coupled to the backplane bus), wherein each of the plurality of modules receives one of the plurality of different data types and presents each data type to the CPU over the backplane bus; (2) in the CPU, converting each data signal into network packets (see lines 59-62 of column 2) and transmitting the network packets through a packet network interface to the packet network (see lines 59-62 of column 2). Oran also discloses the analogous limitations of claim 10.

Regarding claim 20, Oran discloses a method of reducing contention on an Ethernet LAN coupled to a Wide Area Network (WAN), comprising the steps of: (1) collecting in a single

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device a plurality of different data signals including at least analog voice data, wherein the received data signals are not synchronized with each other (analog voice received at the telephony endpoint cards and the data received at the peripheral cards 24); (2) converting each of the plurality of different data signals into digital form (done in the telephony endpoint cards 16 of Figure 2); (3) transmitting the data signals in digital form (step 86 of Figure 4) from step (2) over a backplane bus to a CPU (voice/data router card 14 of Figure 2) in the device; (4) in the CPU, converting the digital data into network packets destined for delivery over the Ethernet LAN and over the WAN (step 88 of Figure 4 and lines 59-62 of column 2).

Oran does not disclose expressly the limitation of scheduling delivery of the network packets in such a way that congestion is avoided. Oran also does not disclose expressly the limitation of claim 10 of an internal timing system. Oran also does not disclose expressly the limitations of claim 20 that the data signals comprise at least analog voice and video data. However, this is well known in the art. For example, Ofek discloses the limitation of scheduling the delivery of network packets over the packet network interface with other devices coupled to the packet network in such a way that congestion is avoided on the packet network throughout the patent; for example, consider the passage in lines 8-14 of the abstract which describes the that packets are rescheduled to facilitate a congestion-free forwarding. Additionally, Ofek also discloses the limitation of an internal timing system capable of synchronizing with one or more network time sources in the GPS time receiver 20 (see figure 3 for example). Finally, Ofek discloses the limitation that the data signals include at least voice and video data in lines 57-63 of column 10, for example. While Ofek does not explicitly disclose the step of receiving analog video data and converting it to digital form, Oran discloses this same process for voice data. It is

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clear that in the combination this same conversion would be performed for the video data as well. Oran and Ofek are analogous art because they are from the same field of endeavor of packets communication of time and delay sensitive data. At the time of the invention it would have been obvious to a person of ordinary skill in the art to schedule the data sent in Oran such that congestion is avoided as disclosed in Ofek. The motivation for doing so would have been to provide guaranteed, low jitter service to real-time traffic as suggested by Ofek in the passage from line 56 of column 4 through line 16 of column 5. Therefore, it would have been obvious to combine Ofek with Oran for the benefit of providing guaranteed, low jitter service to real-time traffic to obtain the invention as specified in claims 1 and 10.

Regarding claim 2, the combination of Oran and Ofek discussed above discloses the limitation that step (3) comprises the step of synchronizing delivery of the network packets over an Ethernet network interface with other devices so as to avoid congestion over an Ethernet. Oran clearly indicates that interfaces 30 and 32 can be Ethernet (see lines 1-3 of column 3).

Regarding claim 3, the combination of Oran and Ofek described above discloses the limitation of the scheduling step comprising the step of transmitting a transmission map among one of the other devices, wherein the transmission map indicates a scheduled delivery of packets over the Ethernet network interface in lines 54-62 of column 9. The map is the mapping of the time frames described in this paragraph and it is transmitted between the two switches via the TFD. This mapping is used to determine the time that the packets are delivered over the packet network.

Regarding claim 4, combination of Oran and Ofek discussed above clearly discloses the limitation of receiving voice data as one of the plurality of data signals throughout (see element 18 of Figure 2 of Oran, for example).

Regarding claim 5, the combination of Oran and Ofek discussed above discloses the limitation that step 1 comprises receiving video data as one of the plurality of data signals (see lines 57-63 of column 10 of Ofek, for example).

Regarding claim 6, the combination of Oran and Ofek discussed above discloses the limitation that step 1 comprises receiving voice data as one of the plurality signals and video data as one of the plurality of data signals (see lines 57-63 of column 10 of Ofek, for example).

Regarding claim 7, the combination of Oran and Ofek discussed above discloses the limitation that the voice data is analog and further comprising the step of converting the analog voice data to digital voice data in figure 4 (analog voice received at the telephony endpoint cards 16 of figure 2). While Ofek does not explicitly disclose the step of receiving analog video data and converting it to digital form, Oran discloses this same process for voice data. It is clear that in the combination this same conversion would be performed for the video data as well.

Regarding claim 8, the combination of Oran and Ofek discussed above discloses the limitation of receiving analog stereo audio data as one of the data signals and presenting the stereo data in digital form to the CPU over the backplane bus in lines 25-29 of column 1 which describes audio signals as one of the target applications for the invention. While Ofek does not explicitly disclose the step of receiving analog audio data and converting it to digital form, Oran discloses this same process for voice data. It is clear that in the combination this same conversion would be performed for the audio data as well. Similarly, while the audio data is not



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explicitly described as being stereo, it is well known that stereo provides more precise audio information.

Regarding claims **9 and 13**, Oran discloses the limitation that step (1) comprises the step of receiving Ethernet data packets from a network separate from the network interface and presenting the Ethernet data packets to the CPU over the backplane bus in elements 24 of Figure 2. While these are not explicitly listed as Ethernet cards, Oran describes them as “conventional” PC peripheral cards; Ethernet cards are well known conventional peripheral cards.

Regarding claim **11**, Oran clearly discloses the limitation that one of the plurality of modules receives voice data and presents digital voice signals and presents the digital voice signals to the CPU in the telephony endpoint cards 18 of Figure 2 and their associated description in the detailed description.

Regarding claim **14**, Oran discloses the limitation that one of the pluralities of modules coupled to the backplane bus comprises a synchronous data interface that receives synchronous data and presents it to the CPU over the backplane bus in the TDM interface 26 of Figure 3.

Regarding claim **15**, Oran discloses the limitation that one of the plurality of modules coupled to the backplane bus comprises an asynchronous data interface that receives asynchronous data and presents it to the CPU over the backplane bus in the UART 68 of Figure 3.

Regarding claim **16**, the combination of Oran and Ofek described above discloses the limitation that the timing system synchronizes delivery of packets with other devices coupled to the same packet network, so as to avoid congestion on an Ethernet. The GPS time receiver is

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used to schedule the packets and they are scheduled in a way to avoid congestion (to provide congestion-free service).

Regarding claim 17, the combination of Oran and Ofek described above discloses the limitations that each device is coupled to the same packet network and that each device synchronizes packet delivery over the packet network with packet delivery in the other devices so as to avoid congestion on the packet network. The devices with which congestion is avoided are those that are on the same network as the device in figure 2 of Oran and the description throughout Ofek indicates that the scheduling method described above is used to schedule the transmission of packets to avoid congestion.

Regarding claim 18, the combination of Oran and Ofek described above discloses the limitation that each device schedules packet delivery over the packet network by agreeing upon time slots during which network packets will be delivered over the packet network in lines 59-67 of column 12 of Ofek which indicates that the time frames used by various switches in a virtual pipe are agreed upon in advance.

Regarding claim 19, the combination of Oran and Ofek described above discloses the limitation that each device schedules packet delivery over the packet network by receiving a transmission map from a master device wherein the map indicates time slots available for transmission over the packet network in lines 54-62 of column 9 of Ofek which indicates the mapping of a first time frame to a second time frame being passed from one device to another and lines 59-67 of column 12 of Ofek which indicates that these mappings are used to schedule packet delivery in available frames.

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7. Claims **21-25** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,240,084 to Oran et al in view of U.S. Patent 6,272,131 to Ofek and in further view of U.S. Patent 6,611,519 to Howe.

The combination of Oran and Ofek discloses all the limitations of parent claim 1 as described in the rejection under 35 U.S.C. 103(a) above. Oran, modified, does not disclose expressly the limitations of claims 21-25 regarding a proposed delivery schedule.

Regarding claim **21**, Howe discloses the limitations that the scheduling step comprises: from a transmitting node, transmitting a proposed delivery schedule to an intended receiving node (see figure 35; the call setup request is the proposed delivery schedule), wherein the proposed delivery schedule indicates time slots corresponding to times during which the transmitting node proposes to transmit packets to the intended receiving node (see figure 42 which provides more detail on the call setup request message; the desired start time and the periodic interval indicate the time slots when the transmitting node proposes to transmit packets);

receiving from the intended receiving node an indication as to whether the proposed delivery schedule is acceptable to the intended receiving node (see figure 35 which indicates in the box starting "If Terminating Edge Node..." that an accept message is sent back to the previous node if the requested times are available); and

if the proposed delivery schedule is acceptable, transmitting packets to the intended receiving node according to the proposed delivery schedule (this is disclosed throughout; consider lines 37-42 of column 4, for example).

Regarding claim **22**, Howe discloses transmitting the query in the call setup message of figure 35. This is a query in that the receiving node can send feedback if this proposed schedule

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is not acceptable (see mode 2 in figure 36). The step of receiving from the intended receiving node a reception map indicating time slots during which transmission to the intended receiving node would not conflict is disclosed in the next best scheduled time of mode 2 of figure 36. The step of from the transmitting node, transmitting a proposed transmission map indicating time slots compatible with the reception map, during which the transmitting node intends to transmit packets is disclosed in steps 4 and 5 in columns 10 and 11 which indicate that the transmitting node will send another call setup message as part of the negotiation when it receives feedback from the receiving node. The limitation of the transmitting packets according to the proposed transmission map is disclosed throughout; consider lines 37-42 of column 4, for example.

Regarding claim 23, the last two steps are disclosed as indicated in claim 22 above. The step of transmitting a bandwidth requirement to an intended receiving node is disclosed in figure 42 in the bits per packet and packets per second fields which indicated a maximum bandwidth required to support the request.

Similarly, Howe discloses the limitations of claims 24 and 25 of generating a delivery schedule prior to scheduling delivery of the network packets in the call setup procedure described above and in figures 35 and 42.

Oran, as modified, and Howe are analogous art because they are from the same field of endeavor of packet communication for time and delay sensitive data. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify the combination of Oran and Ofek to add the layer 1 switching system as described in Howe. The motivation for doing so would have been to guarantee delivery and reduce delay of real-time packets as suggested by Howe in lines 55-67 of column 3. Therefore, it would have been

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obvious to combine Howe with the above combination of Oran and Ofek for the benefit of guaranteed delivery and reduced delay to obtain the invention as specified in claims 21-25.

### *Conclusion*

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 571-272-3169. The examiner can normally be reached on Monday and Thursday from 6:30-5:00 Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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*RLS 1-19-06*

Robert C. Scheibel  
Examiner  
Art Unit 2666

*Tom M. M. M.*

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PRIMARY EXAMINER